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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,532	06/25/2003	Michael Joseph Pizzo	13768.402	4133
47973 7590 06/14/2007 WORKMAN NYDEGGER/MICROSOFT 1000 EAGLE GATE TOWER 60 EAST SOUTH TEMPLE SALT LAKE CITY, UT 84111			EXAMINER PONIKIEWSKI, TOMASZ	
			ART UNIT 2165	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/603,532</p>	<p>Applicant(s)</p> <p align="center">PIZZO ET AL.</p>	
	<p>Examiner</p> <p align="center">Tomasz Ponikiewski</p>	<p>Art Unit</p> <p align="center">2165</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11, 36-38 and 50-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 36-38 and 50-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/> Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/> Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|---|---|

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### DETAILED ACTION

1. The amendment filed on 21-March-2007 has been received and entered.

Applicant's amendment has overcome previous claim objections. Claim 10 has been canceled. Claims 50-59 have been added; therefore claims 1-9, 11, 36-38 and 50-59 are pending.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4, 7, 9-11 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zondervan et al. (US 6,516,327 B1) in view of Chu et al. (U.S. 6,493,720 B1).

As per claim 1 Zondervan et al. is directed to a computer system that accesses a database having one or more data tables, the computer system configured to provide content from the database to a Web server for inclusion in Web based responses to requests for Web based content, computer system including a cache configured to cache database content included in Web based responses so as to provide more efficient access to the cached database content when formulating subsequent Web based responses, a method for formulating a Web based response in response to

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receiving a Web based request for database content, the method comprising the following:

an act of inserting a record for the selected data table into a change notification table, the corresponding record including versioning information identifying and corresponding to the selected data table, the versioning information retrievable by the Web server to determine when a corresponding cache entry containing cacheable content from selected data table is invalid (Zondervan et al., column 11, lines 34-50; column 12, lines 20-34);

an act of inserting a record for the selected data table into a change notification table, the corresponding record including versioning information identifying and corresponding to the selected data table, the versioning information retrievable by the Web server to determine when a corresponding cache entry containing cacheable content from selected data table is invalid (Zondervan et al., column 11, lines 34-50; column 12, lines 20-34).

an act of caching a cache entry that includes a portion of content from the selected data table in the cache, the cache entry including the versioning information identifying and corresponding to the selected data table (Zondervan et al., column 13, lines 2-16);

an act receiving a Web based request for the portion of content subsequent to caching the cache entry (Zondervan et al., column 14, lines 12-16);

an act of querying the change notification table for versioning information identifying and corresponding to the selected data table (Zondervan et al., column 14, lines 28-36);

an act of receiving current versioning information identifying and corresponding to the selected data table (Zondervan et al., column 11, lines 34-50; column 12, lines 20-34);

an act of comparing the cached versioning information to the current versioning information table (Zondervan et al., column 14, lines 28-36);

an act of determining the location to retrieve the portion of content from for inclusion in a Web based response based on the results of comparing the versioning information in response to receiving the Web based request for the portion of content (Zondervan et al., figure 10, #256, # 258);

an act of retrieving the portion of content from the determined location (Zondervan et al., figure 10, #264); and

an act of including the retrieved portion of content in a Web based response responsive to the Web based request (Zondervan et al., figure 10, #268, wherein the response is synchronization).

Zondervan et al. does not teach an act of selecting a data table that is to be monitored for content changes, the selected data table selected from among the one or more data tables of the database.

Chu et al. does teach an act of selecting a data table that is to be monitored for content changes, the selected data table selected from among the one or more data

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tables of the database (Chu et al., column 3, lines 52-55, wherein "data table" means "file manager, ..., or a database system");

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Zondervan et al. by teachings of Chu et al. to include act of selecting a data table that is to be monitored for content changes, the selected data table selected from among the one or more data tables of the database because monitoring for change is well known in the art.

Zondervan et al. as modified still does not does not teach an act of assigning a trigger to the selected data table, the trigger configured to update the versioning information included in the record in the change notification table when content in the selected data table is altered.

Chu et al. teaches an act of assigning a trigger to the selected data table, the trigger configured to update the versioning information included in the record in the change notification table when content in the selected data table is altered (Chu et al., column 7 lines 60-61, wherein "trigger" means "schedule");

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Chu et al. to include an act of assigning a trigger to the selected data table, the trigger configured to update the versioning information included in the record in the change notification table when content in the selected data table is altered because a trigger is a well known in the art.

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As per claim 2 Zondervan et al. as modified is directed to the act of selecting a data table that is to be monitored for content changes comprises an act of receiving user-input that causes the computer system to select a data table is to be monitored for content changes (Chu et al., column 7, lines 33-36).

As per claim 4 Zondervan et al. as modified is directed to the act of inserting a record for the selected data table into a change notification table comprises an act of inserting the record in response to user-input (Chu et al., column 7, lines 14-16, wherein "inserting" means "registering").

As per claim 7 Zondervan et al. as modified is directed to the act of assigning a trigger to the selected data table comprises an act of receiving user input instructing a trigger to be assigned to the selected data table (Chu et al., column 7 lines 60-61, wherein "trigger" means "schedule").

As per claim 9 Zondervan et al. as modified is directed to the act of assigning a trigger to the selected data table comprises an act of the assigning a trigger that, when executed by a processing unit at the computer system in response to content in the selected data table being altered, will update a corresponding change ID in the table change notification table (Chu et al., column 7, lines 42-46).

As per claim 11 Zondervan et al. as modified is directed to the act of sending the updated versioning information to the Web server comprises an act of sending updated versioning information that indicates to the Web server that the cache is to be invalidated (Chu et al., column 6, lines 14-19; Chu et al., column 6, lines 42-46, Chu et al., column 9, lines 22-25).

As per claim 36 Zondervan et al. is directed to a computer program product executed at a computer system that access a database having one or more data tables, the computer system configured to provide content from the database to a Web server for inclusion in Web based responses to requests for Web based content, the computer system including a cache configured to cache database content included in Web based responses so as to provide more efficient access to the cached database content when formulating subsequent Web based responses, the computer program product implementing a method for formulating a Web based response in response to receiving a Web based request for database content, the computer program product comprising one or more computer-readable storage media having stored thereon computer executable instructions that, when executed by a processing unit, implement the method including the following:

insert a record for the selected data table into a change notification table, the record including versioning information identifying and corresponding to the selected data table, the versioning information retrievable by the Web server to determine when



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a corresponding cache entry containing cacheable content from the selected data table is invalid (Zondervan et al., column 11, lines 34-50; column 12, lines 20-34);

cache a cache entry that includes a portion of content from the selected data table in the cache, the cache entry including the versioning information identifying and corresponding to the selected data table (Zondervan et al., column 13, lines 2-16);

receive a Web based request for the portion of content subsequent to caching the cache entry (Zondervan et al., column 14, lines 12-16);

query the change notification table for versioning information identifying and corresponding to the selected data table (Zondervan et al., column 14, lines 28-36);

receive current versioning information identifying and corresponding to the selected data table (Zondervan et al., column 11, lines 34-50; column 12, lines 20-34);

compare the cached versioning information to the current versioning information (Zondervan et al., column 14, lines 28-36);

determine the location to retrieve the portion of content from for inclusion in a Web based response based on the results of comparing the versioning information in response to receiving the Web based request for the portion of content (Zondervan et al., figure 10, #256, # 258);

retrieve the portion of content from the determined location (Zondervan et al., figure 10, #264); and

include the retrieved portion of content in a Web based response responsive to the Web based request (Zondervan et al., figure 10, #268, wherein the response is synchronization).

Zondervan et al. does not teach select a data table that is to be monitored for data changes, the selected data table selected from among the one or more data tables of the database.

Chu et al. does teach select a data table that is to be monitored for data changes; the selected data table selected from among the one or more data tables of the database (Chu et al., column 3, lines 52-55, wherein "data table" means "file manager, ..., or a database system");

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Zondervan et al. by teachings of Chu et al. to include select a data table that is to be monitored for data changes, the selected data table selected from among the one or more data tables of the database because monitoring for change is well known in the art.

Zondervan et al. as modified still does not teach assign a trigger to the selected data table, the trigger configured to update the versioning information in the record in the change notification table when data in the selected data table is altered.

Chu et al. teaches assign a trigger to the selected data table, the trigger configured to update the versioning information in the record in the change notification table when data in the selected data table is altered (Chu et al., column 7 lines 60-61, wherein "trigger" means "schedule");

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Chu et al. to include assign a trigger to the selected data table, the trigger configured to

update the versioning information in the record in the change notification table when data in the selected data table is altered because a trigger is a well known in the art.

As per claim 37 Zondervan et al. as modified is directed to the one or more computer-readable storage media are physical media (Chu et al., column 2, lines 49-50).

As per claim 38 Zondervan et al. as modified is directed to the one or more computer-readable storage media include system memory (Chu et al., column 2, lines 46-56).

4. Claims 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zondervan et al. (US 6,516,327 B1) in view of Chu et al. (US 6,493,720 B1) and further in view of Jim Challenger, Arun Iyengar, Paul Dantzig "A scalable system for Consistently Caching Dynamic Web Data", (from here on referred as Challenger et al.).

As per claim 3 Zondervan et al. as modified still does not teach the act of selecting a data table that is to be monitored for content changes comprises an act of the computer system automatically selecting a data table in response to a received Web request.

Challenger et al. does teach the act of selecting a data table that is to be monitored for content changes comprises an act of the computer system automatically

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selecting a data table in response to a received Web request (page 300, column 1 last paragraph, lines 4-8, wherein the system is aware of only "athlete page" being imputed hence that is table selected).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Challenger et al. to include the act of selecting a data table that is to be monitored for content changes comprises an act of the computer system automatically selecting a data table in response to a received Web request because automation is more efficient use of resources (see Challenger et al. abstract).

As per claim 5 Zondervan et al. as modified still does not teach the act of inserting a record for the selected data table into a change notification table comprises an act of the computer system automatically inserting the record in response to a Web request.

Challenger et al. does teach the act of inserting a record for the selected data table into a change notification table comprises an act of the computer system automatically inserting the record in response to a Web request (page 301, column 1, lines 24-27; column 2, lines 9-10, wherein "inserting" means "adding")

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Challenger et al. to include the act of inserting a record for the selected data table into a change notification table comprises an act of the computer system automatically

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inserting the record in response to a Web request because automation is more efficient use of resources (see Challenger et al. abstract).

As per claim 8 Zondervan et al. as modified still does not teach the act of assigning a trigger to the selected data table comprises an act of the computer system automatically assigning a trigger in response to receiving a Web request for content contained in the selected data table.

Challenger et al. does teach the act of assigning a trigger to the selected data table comprises an act of the computer system automatically assigning a trigger in response to receiving a Web request for content contained in the selected data table (page 301, column 1, section "3.5 The Trigger Table").

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Challenger et al. to include the act of assigning a trigger to the selected data table comprises an act of the computer system automatically assigning a trigger in response to receiving a Web request for content contained in the selected data table because automation is more efficient use of resources (see Challenger et al. abstract).

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zondervan et al. (US 6,516,327 B1) in view of Chu et al. (US 6,493,720 B1) and further in view of Dettinger et al. (US PUB 2003/0093413 A1).

As per claim 6 Zondervan et al. as modified still does not teach the act of inserting a record for the selected data table into a change notification table compromises an act of inserting the record into a SQL table.

Dettinger et al. does teach the act of inserting a record for the selected data table into a change notification table compromises an act of inserting the record into a SQL table (Dettinger et al. page 4, paragraph 0036, lines 11-13).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Dettinger et al. to include inserting a record into a SQL table because SQL language is most commonly used in databases.

6. Claims 50-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zondervan et al. (US 6,516,327 B1) in view of Chu et al. (US 6,493,720 B1) and further in view of Shaul Dar, Michael J. Franklin, Björn T. Jónsson, Divesh Srivastava, Michael Tan "Semantic Data Caching and Replacement" (from here on referred as Dar et al.)

As per claim 50 Zondervan et al. as modified still does not teach wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of determining that the portion of content is to be retrieved from the data table.

Dar et al. does teach wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of

determining that the portion of content is to be retrieved from the data table (Dar et al., section 2.4, 3<sup>rd</sup> paragraph):

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Dar et al. to include wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of determining that the portion of content is to be retrieved from the data table because cache is a small, rapid retrieval memory that cannot hold large sets of data therefore the remaining portion remains on disk (Dar et al., section 1.3, lines 5-8).

As per claim 51 Zondervan et al. as modified is directed to a n act of invalidating the cache entry that includes the portion of content based on the comparison of version information in response to receiving the Web based request for the portion of content (Zondervan et al. figure 11, #218; column 14, lines 18-22).

As per claim 52 Zondervan et al. as modified still does not teach wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of determining that the portion of content is to be retrieved from the cache entry.

Dar et al. does teach wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of

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determining that the portion of content is to be retrieved from the cache entry (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Dar et al. to include wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of determining that the portion of content is to be retrieved from the data table because cache is a small, rapid retrieval memory that cannot hold large sets of data therefore the remaining portion remains on disk (Dar et al., section 1.3, lines 5-8).

As per claim 53 Zondervan et al. as modified still does not teach wherein the act of retrieving the portion of content from the determined location comprises an act of retrieving the portion of content from the database table notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received.

Dar et al. does teach wherein the act of retrieving the portion of content from the determined location comprises an act of retrieving the portion of content from the database table notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further modify Zondervan et al. as modified by teachings of Dar



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et al. to include wherein the act of retrieving the portion of content from the determined location comprises an act of retrieving the portion of content from the database table notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received because cache is a small, rapid retrieval memory that cannot hold large sets of data therefore the remaining portion remains on disk (Dar et al., section 1.3, lines 5-8).

As per claim 54 Zondervan et al. as modified is directed to wherein the act of including the retrieved portion of content in a Web based response responsive to the Web based request comprises including the retrieved portion of content from the database table in the Web based response notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

As per claim 55 Zondervan et al. as modified is directed to wherein computer executable instructions that, when executed, cause the computer system to determine the location to retrieve the portion of content from for inclusion in a Web based response comprise computer executable instructions that, when executed, cause the computer system to determine that the portion of content is to be retrieved from the data table (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

As per claim 56 Zondervan et al. as modified is directed to further comprising: computer executable instructions that, when executed, cause the computer system to invalidate the cache entry that includes the portion of content based on the comparison of version information in response to receiving the Web based request for the portion of content (Chu et al., column 6, lines 14-19; Chu et al., column 6, lines 42-46, Chu et al., column 9, lines 22-25).

As per claim 57 Zondervan et al. as modified is directed to wherein computer executable instructions that, when executed, cause the computer system to determine the location to retrieve the portion of content from for inclusion in a Web based response comprise computer executable instructions that, when executed, cause the computer system to an act of determine that the portion of content is to be retrieved from the cache entry (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

As per claim 57 Zondervan et al. as modified is directed to wherein computer executable instructions that, when executed, cause the computer system to retrieve the portion of content from the determined location comprise computer executable instructions that, when executed, cause the computer system to retrieve the portion of content from the database table notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

As per claim 57 Zondervan et al. as modified is directed to wherein computer executable instructions that, when executed, cause the computer system to include the retrieved portion of content in a Web based response responsive to the Web based request comprise computer executable instructions that, when executed, cause the computer system to include the retrieved portion of content from the database table in the Web based response notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received (Dar et al., section 2.4, 3<sup>rd</sup> paragraph).

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-9, 11, 36-38 and 50-59 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tomasz Ponikiewski whose telephone number is (571)272-1721. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571)272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tomasz Ponikiewski  
June 5, 2007

  
JEFFREY GAFFIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100